

Paper Session 10: Adolescent Smoking Cessation

**PA10-1**

**WHEN WILL YOUTH SMOKERS MAKE A QUIT ATTEMPT AND RESUME SMOKING AFTER RECEIVING TELEPHONE COUNSELING? A LONGITUDINAL STUDY**

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**Objective:** To examine the pattern of youth smokers who received telephone smoking cessation intervention and who would initiate a quit attempt and subsequently resume smoking.

**Methods:** We collected data from a toll-free smoking cessation hotline "Youth Quitline" in Hong Kong from September 2005 to December 2007. The Youth Quitline is a peer-led hotline with multiple telephone counseling sessions at baseline, 1-week and 1-month and successive telephone follow-ups at 3- and 6-months, to help youth smokers aged 12 – 25 quit smoking. We applied non-parametric Kaplan-Meier method to explore the time trend prior to initiating a quit attempt as well as smoking resumption.

**Results:** The study included 408 youth callers, and 282 started quitting within the follow-up period. About 30% of the youth smokers (95%CI = 26 – 35%) would initiate a quit attempt within 7 days after receiving the baseline telephone intervention. For the 282 callers who quit within the follow-up period, two-thirds (67%, 95%CI = 44 – 56%) resumed smoking within the first 7 days after their quit attempt.

**Conclusions:** This is the first study using survival analysis techniques to evaluate how soon youth smokers initiate their quit attempts and resume smoking, after receiving telephone counseling. Youth smokers who intend to quit initiate a quit attempt shortly after receiving the telephone intervention. Smoking cessation counselors should provide subsequent follow-ups promptly after the baseline intervention to capitalize on the quitting intentions of the smokers.

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**PA10-2**

**ADOLESCENT SMOKING CESSATION WITH BUPROPION: THE ROLE OF ADHERENCE**

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Nearly 4,000 adolescents try their first cigarette every day, and of those, an estimated 1,140 will become regular smokers. While these estimates highlight the urgent need for effective tobacco cessation approaches for youth, to date, few studies have demonstrated efficacy. Further, among those studies, only two medication trials have observed significant short-term treatment effects. One study, by Moolchan et al., compared nicotine patch and gum, and found that (1) nicotine patch resulted in higher quit rates than gum and (2) that adherence to patch use was much higher than adherence to gum treatment. The other -completed by our group- assessed the efficacy of two doses of bupropion, and found that bupropion can increase quit rates at the end of 6 weeks of medication treatment, though relapse is common post-treatment. However, we did not analyze medication adherence at that time. Medication adherence has emerged as a key mechanism of treatment effect for conditions in adolescent populations such as depression, ADHD, asthma and HIV. However adherence has remained largely understudied and underreported in the adolescent tobacco cessation literature, though there is some indication it may make a difference for cessation treatment. In this analysis, we examined of the role of medication adherence in youth randomly assigned to use placebo, 150mg or 300mg of bupropion daily for smoking cessation. Preliminary findings indicate that on average, across conditions, participants took just under 70 of the 95 (73.68%) prescribed doses of bupropion. There were no significant mean differences between study groups in the number of prescribed doses taken,  $F(2, 299)=.289, p=.750$ , nor in the proportion of participants in each group who were considered "highly adherent," (having taken at least 80% of prescribed doses)  $\chi^2(2)=.245, p=.885$ . These results likely impacted our positive quit rates. Analysis of potential factors influencing adherence (e.g. experiences of adverse events, baseline smoking and withdrawal) as well as the relationship between adherence and cessation outcomes will be discussed.

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**PA10-3**

**BEHAVIORAL UNDERCONTROL MODERATES POST-INITIATION CHANGE IN SMOKING EXPECTANCIES**

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Expectancies, or beliefs about the effects of smoking, have been linked to smoking behaviors, including initiation and cessation. Most research has used cross-sectional designs under the assumption that expectancies are stable over time. However, recent studies suggest that expectancies vary due to internal and external stimuli, personality characteristics (e.g., behavioral undercontrol), and patterns of use. Although initiation of smoking would seem to be particularly important in the formation of expectancies, we were unable to identify any studies that directly tested this hypothesis. The present study was designed to assess change in positive reinforcement (PRE) and negative reinforcement (NRE) expectancies from pre- to post-initiation of smoking, and to determine whether expectancy change over time was moderated by behavioral undercontrol (BU). College student baseline never-smokers were interviewed annually. Smoking expectancies were assessed using the short form of the Smoking Consequences Questionnaire at the interviews immediately preceding to and following smoking initiation. Mixed linear modeling showed that among those who initiated smoking after freshman year ( $n = 74$ ), there was a significant post-initiation increase in PRE [ $z = 3.37, p = .001$ ] and a marginally significant increase in NRE [ $z = 1.91, p = .056$ ]. BU moderated the relationship between time and NRE [ $z = 2.23, p = .026$ ], such that NRE increased after initiation for high BU subjects [ $z = 2.74, p = .006$ ] but was unchanged for low BU subjects. These data suggest that initial experience with cigarettes is associated with heightened smoking expectancies, particularly PRE. Additionally, the findings indicate that high BU individuals may perceive smoking as more negatively reinforcing than others, which may increase the risk of progression toward nicotine dependence.

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**PA10-4**

**MOTIVATIONAL INTERVIEWING FOR SMOKING CESSATION IN COLLEGE STUDENTS: FINDINGS FROM A GROUP RANDOMIZED CONTROLLED TRIAL**

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Prior studies of smoking interventions designed for college students show mixed results. This study examines the efficacy of four individually delivered counseling sessions based on Motivational Interviewing for smoking cessation versus a matched intensity condition focused on health. College students smoking on at least 1 out of 30 days were recruited regardless of their interest in quitting. 30 fraternities and sororities were randomized, resulting in 452 participants (45% female, 95% white, 87% non-daily smokers). Analyses for cessation classified subjects missing at end of treatment (EOT) and 6-month follow-up (FU) as smokers and accounted for clustering effects as necessary. No significant differences were found for 30-day cessation between treatment and control at EOT (31.4% vs. 28%, OR=1.20, 95% CI .72, 1.99) or at FU (20.4% vs. 24.6%, OR=.78, 95% CI .50, 1.22). Predictors of cessation at FU, regardless of condition, included greater number of sessions attended (OR 1.2, 95% CI 1.1, 1.8) and higher baseline level of smoking (OR 4.7, 95% CI 2.5, 8.9). At EOT, the odds of making at least one quit attempt were significantly greater for those in the treatment versus the control group (45.5% vs. 32.2%,  $p=.016$ ). At FU, the trend continued, but was not significant. Displays of Zero-inflated Poisson Mixed Models showed reduction in days smoked from baseline for both groups at EOT and FU, with more reduction apparent for students smoking more at baseline. At EOT only, those in the treatment condition had greater reductions in days smoked, but this pattern was not evident for very infrequent smokers. MI for smoking cessation is effective for increasing cessation attempts and reducing days smoked for more frequent smokers in the short run. Since students were not necessarily interested in quitting, cessation rates at follow-up were relatively high. Because the control condition focused on healthily eating and attending more sessions predicted cessation, it is possible that both conditions prompted cessation. The greater benefit of MI for smoking among more frequent smokers suggests that very infrequent smokers may benefit from interventions more focused on general health.

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